Management of CVD in Primary Healthcare[1,2]

List of indicators
General care indicators:
1. Availibility of PHC organizations that currently provide preventive services
2. Availibility of testing for CVD management in primary care
3. CVD prevalence
4. CVD incidence
5. CVD coverage

Process indicators:
1. Screening for Modifiable Risk Factors in Adults With Coronary Artery Disease;
   - Full fasting lipid profile screening;
   - Fasting glucose screening;
   - Blood pressure measurement;
   - Obesity/overweight screening and
   - Smoking status assessment
2. Medication treatment for risk reduction in patients with established CVD;
   - beta-blockers,
   - aspirin and
   - statin
3. Support for Self-Management and education of patients with CVD

Outcome indicators:
4. Percentage of population, with established CVD who had an acute CVD event (myocardial infarction, acute stroke).

General structure indicators

Indicator 1		
Description/Definition	**Name of indicator**	**Availibility of PHC organizations that currently provide preventive services**
	Description of Indicator	Percentage of primary health care (PHC) organizations that currently provide a range of PHC services
Data elements	**Which elements of data needed?**	PHC Center Survey, Health facility database
	Are data items collected/used currently?	No
Calculation	**Nominator**	Number of organizations in the denominator that report currently offering the following services: × Management of care for an emergent but minor health problem; × Non-urgent routine care; × Prevention and health promotion and/or education services; × Rehabilitation services;

		× Care for chronic conditions (Diabetes, CVD, Hypertension, Asthma, COPD)
		× Having Patients registers (general and for chronic conditions)
		Inclusions
		× Organization is in the denominator
		× Organization respondent reported currently providing follow-up for management of care for an emergent but minor health problem
		× Organization respondent reported currently providing follow-up for non-urgent routine care
		× Organization respondent reported currently providing follow-up for prevention and health promotion and/or education services
		× Organization respondent reported currently having rehabilitation services
		× Organization respondent reported currently having Care for chronic conditions (Diabetes, CVD, Hypertension, Asthma, COPD)
		× Organization respondent reported currently having Patients registers (general and for chronic conditions)
		× Organization respondent reported currently having guidelines and protocols for providing range of PHC services
	Denominator	Number of PHC organization respondents. **Inclusions** × PHC organization **Exclusions** None

Indicator 2

Description/Definition	Name of indicator	**Availibility of testing for CVD management in primary care**
	Description of Indicator	Percentage of primary health care (PHC) organizations that currently provide tests for management of CVD
Data elements	Which elements of data needed?	PHC Center Survey, Health facility database
	Are data items collected/used currently?	No
Calculation	Nominator	Number of facilities in the denominator that have available and functional the medical equipment on-site or the specimen can be collected at the facility and sent out by the staff:
		× Blood pressure measurement
		× Blood glucose measurement
		× Blood creatinine measurement

		× Blood electrolytes measurement × HbA1c, diabetes testing × Lipid profile measurement × urine strips for albumin assay × ECG testing × CVD risk assessment tools
	Denominator	Number of PHC organization respondents. **Inclusions** × PHC organization **Exclusions** None

Indicator 3

Description/Definition	Name of indicator	CVD prevalence
	Description of Indicator	Percentage of population, age 18 and older, who have currently CVD
Data elements	**Which elements of data needed?**	PHC Center Patients' data registry
	Are data items collected/used currently?	No
Calculation	**Nominator**	Number of individuals in the denominator who have the diagnosis of coronary artery disease, stroke, TIA, or peripheral artery disease
	Denominator	Patients aged 18 and older **Inclusions** × PHC client/patient × Age of individual is at least 18 years **Exclusion** None

Indicator 4

Description/Definition	Name of indicator	CVD incidence
	Description of Indicator	Percentage of population, age 18 and older with newly diagnosed CVD
Data elements	**Which elements of data needed?**	PHC Center Patients' data registry
	Are data items collected/used currently?	No
Calculation	**Nominator**	Number of individuals in the denominator in whom coronary artery disease, stroke, TIA, peripheral artery disease is diagnosed within past 12 months
	Denominator	Patients aged 18 and older **Inclusions** × PHC client/patient × Age of individual is at least 18 years **Exclusion** None

Indicator 5

Description/Definition	Name of indicator	CVD coverage
	Description of Indicator	Percentage of population, age 18 and older with CVD who were seen by their PHC provider
Data elements	**Which elements of data needed?**	PHC Center Patients' data registry, EMR, Reporting Forms, Outpatient and Home Visit Registration Journals, Specific Flowsheets

	Are data items collected/used currently?	No
Calculation	**Nominator**	Number of individuals in the denominator who were seen by their PHC provider within past 12 months
	Denominator	Patients aged 18 and older **Inclusions** × PHC client/patient × Age of individual is at least 18 years × Patient diagnosed with CVD **Exclusion** None
Note	**Definition of terms** × A PHC client/patient is an individual who has had contact with the provider at least once in the past year and has a record with the provider dating back at least two years. × CVD includes coronary artery disease, stroke, TIA, peripheral artery disease. × Coronary artery disease (CAD) (with or without angina): Examples include clients/patients with prior myocardial infarctions, prior revascularization, angiographically proven coronary atherosclerosis, or reliable non-invasive evidence of myocardial ischemia.	
Disaggregation	What levels of disaggregation (separation) are needed (if needed)?	By individual Family Doctor; Man/Women; Age: 18-39; 40-49; 50-59; 60-69; 70-79; 80+
Data source	Name of data source	Medical records, Reporting Forms, Outpatient and Home Visit Registration Journals, Specific Flowsheets, Health database surveys
	Format of data source	Paper based, or electronic medical record (EMR)
	Limitation of data source (e.g. could be used only after several years)	Use of EMR only after implementation of HMIS system locally
	Is data source used currently?	Medical records, outpatient and home visit registration journals are approved by the Ministry Order №01-41/n and are maintained uniformly by all outpatient service providers in accordance with this Order
Data quality	Limitations of data used (e.g. based on age, diagnosis etc.)	Patients aged 18 and older with diagnosis of CVD
	Checking of data quality	By the Quality Improvement team of the medical facility
Monitoring	Date of creation	-
	Date of updating	-
Organizations/Departments/Staff involved	Organization who owns/creates the data	Name of Medical Organization
	Organization submitting indicator report	Quality Improvement team of the medical facility, Family doctors/Nurses/Managers

Process/outcome indicators

Indicator 1		
Description/Definition	**Name of indicator**	**Screening for Modifiable Risk Factors in Adults With Coronary Artery Disease**

	Description of Indicator	Percentage of patient population, age 18 and older, with coronary artery disease (CAD) who received testing for all of the following: × Full fasting lipid profile screening; × Fasting glucose screening; × Blood pressure measurement; × Obesity/overweight screening and × Smoking status assessment.
Data elements	**Which elements of data needed?**	Surveillance data of patients with the diagnosis of CAD
	Are data items collected/used currently?	No
Calculation	**Nominator**	Number of primary health care (PHC) clients/patients who received testing within the past 12 months for all of the following: × Full fasting lipid profile screening; × Fasting glucose screening; × Blood pressure measurement; × Obesity/overweight screening and × Smoking status assessment. **Inclusions** × Individual is in the denominator × Individual had a lipid profile screening performed within the past 12 months × Individual had a blood glucose screening performed within the past 12 months × Individual had a blood pressure measurement taken by their PHC provider within the past 12 months × Individual had at least one of the following: ! Weight/BMI measured by their PHC provider within the past 12 months ! Waist circumference measured by their PHC provider within the past 12 months × Individual had a smoking status assessment performed within the past 12 months. **Exclusions** None
	Denominator	Number of PHC clients/patients, age 18 and older, with CAD. **Inclusions** × PHC client/patient × Age of individual is at least 18 years × Individual has a diagnosis of CAD **Exclusions** None
Indicator 2		
Description/Definition	**Name of indicator**	**Medication treatment for risk reduction in patients with established CVD**
	Description of Indicator	Percentage of patient population who have had an established diagnosis of CVD (CAD, PAD, Stroke, and

		CVD) and are currently prescribed beta-blockers, aspirin and statin.
Data elements	**Which elements of data needed?**	Surveillance data of patients with the diagnosis of CVD
	Are data items collected/used currently?	No
Calculation	**Nominator**	Number of individuals in the denominator who are currently prescribed beta-blockers, aspirin and statin **Inclusions** × Individual is in the denominator × Individuals who had one or both of the following: × Individual was prescribed a beta-blocker, aspirin and statin within the past 12 months × Individual has a contraindication to either specific drug **Exclusions** None
	Denominator	Number of primary health care (PHC) clients/ Patients who have diagnosis of CVD. **Inclusions** × PHC client/patient × Patient is diagnosed with CVD **Exclusions** None

Indicator 3

Description/Definition	**Name of indicator**	**Support for Self-Management and education of patients with hypertension**
	Description of Indicator	Percentage of patient population, age 18 and older, with CVD who received at least one of the following types of self-management support from their primary health care (PHC) provider: × Provided with a treatment plan; × Encouraged to use self-help groups or CVD education programs.
Data elements	**Which elements of data needed?**	Surveillance data of patients with CVD, CVD patinets' survey
	Are data items collected/used currently?	No
Calculation	**Nominator**	Number of individuals in the denominator who reported receiving at least one of the following types of self-management support from their PHC provider over the past 12 months: × Provided with a treatment plan; and/or × Encouraged to use self-help groups or CVD education programs. **Inclusions** × Individual is in the denominator × Individual reported at least one of the following over the past 12 months: ! Was helped in making a treatment plan

		! Was encouraged to go to a specific group or class to help to cope with CVD ! Was encouraged to attend programs in the community that could help him or her care for his or her chronic condition(s) **Exclusions** None
	Denominator	Number of patients aged 18 years and older with diagnosis of CVD **Inclusions** x PHC client/patient x Age of individual is at least 18 years x Individual is diagnosed with CVD **Exclusion** x None

Indicator 4

Description/Definition	Name of indicator	Complications of CVD
	Description of Indicator	Percentage of population, with established CVD who had an acute CVD event (myocardial infarction, acute stroke)
Data elements	**Which elements of data needed?**	Surveillance data of patients with the diagnosis of CVD
	Are data items collected/used currently?	No
Calculation	**Nominator**	Number of individuals, age 18 and older, with diagnosis of CVD who had an acute myocardial infarction or stroke within the past 12 months. **Inclusions** × Age of individual is at least 18 years × Individual has a diagnosis of CVD × Individual had one or more of the following within the past 12 months: × Acute myocardial infarction × Acute stroke **Exclusions** None
	Denominator	Number of primary health care (PHC) clients/ Patients who have diagnosis of CVD. **Inclusions** × PHC client/patient × Patient is diagnosed with CVD **Exclusions** None
Note	**Definitions of terms** × A PHC client/patient is an individual who has had contact with the provider at least once in the past year and has a record with the provider dating back at least two years. × CVD includes coronary artery disease, stroke, TIA, peripheral artery disease.	

	× Coronary artery disease (CAD) (with or without angina): Examples include clients/patients with prior myocardial infarctions, prior revascularization, angiographically proven coronary atherosclerosis, or reliable non-invasive evidence of myocardial ischemia.	
Disaggregation	What levels of disaggregation (separation) are needed (if needed)?	By individual Family Doctor; Man/Women; Age: 18-39; 40-49; 50-59; 60-69; 70-79; 80+
Data source	Name of data source	Medical records, Reporting Forms, Outpatient and Home Visit Registration Journals, Specific Flowsheets
	Format of data source	Paper based, or electronic medical record (EMR)
	Limitation of data source (e.g. could be used only after several years)	Use of EMR only after implementation of HMIS system locally
	Is data source used currently?	Medical records, outpatient and home visit registration journals are approved by the Ministry Order №01-41/n and are maintained uniformly by all outpatient service providers in accordance with this Order
Data quality	Limitations of data used (e.g. based on age, diagnosis etc.)	Patients aged 18 and older with diagnosis of CVD
	Checking of data quality	By the Quality Improvement team of the medical facility
Monitoring	Date of creation	-
	Date of updating	-
Organizations/Departments/Staff involved	Organization who owns/creates the data	Name of Medical Organization
	Organization submitting indicator report	Quality Improvement team of the medical facility, Family doctors/Nurses/Managers

Evidence source:

[1] 2016 European Guidelines on cardiovascular disease prevention in clinical practice
https://academic.oup.com/eurheartj/article/37/29/2315/1748952

[2] Canadian Cardiovascular Harmonized National Guidelines Endeavour (C-CHANGE) guideline for the prevention and management of cardiovascular disease in primary care: 2018 update
https://pubmed.ncbi.nlm.nih.gov/30301743/